MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computer Programming**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	**ICE114**				
ECTS Credits	**7**				
SWL (hr/sem)	**175**				
Module Level		UGx11	**Semester of Delivery**		
Administering Department		Type Dept. Code	**College**	Type College Code	
Module Leader	Fatima Bahjat Ibrahim		**e-mail**	fatima@kecbu.uobaghdad.edu.iq	
Module Leader's Acad. Title		Lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		/06/2023	**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To express algorithms and draw flowcharts in a language independent manner. 2. To teach how to write program, efficient and readable C++ programs. 3. To impart knowledge in creating and using Arrays of the C++ data types.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Understanding Computer parts and Organization. 2. Understanding Programming Languages. 3. Understanding Programming Logic. 4. Designing Flowchart and algorithm. 5. Translating Flowchart into program and vice versa. 6. Designing Program in C++ using simple tools. 7. Ability to identify and fix errors
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Computer Organization Computer system parts and interconnection. [10 Hrs] Part B – Computer Programming languages How Computer programming languages work and their levels. [10 Hrs] Part C – Algorithms and Flowcharts Design and implement program in language independent manner. [10 Hrs] Part D – Programming in C++ Basic of C++, assignment statements, Conditional statements, Reptation statements, Array in C++. [30 Hrs] Part E – Lab Demonstrate all the above using Visual studio C++ Compiler. [45 Hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The module covers the basics of programming and demonstrates fundamental programming techniques, customs and terms including the most common library functions and the usage of the pre-processor. This module helps the students in gaining the knowledge to write simple C++ language applications, mathematical and engineering problems. This module helps to undertake future courses that assume this

	programming language as a background in computer programming. Topics include variables, data types, control structures and arrays.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	108	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	67	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**175**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	20% (20)	3 /7/ 13	LO #1 - #2 - #3. LO #4 - #5 - #7 L0 #6 - #7
	Assignments	5	5% (5)	3 / 5/ 7/ 10/13	LO #1 LO #2 - #3. LO #4, #5. LO #6, #7. All
	Projects	1	5% (5)	Continuous	All
	Lab. Reports	15	10% (10)	Continuous	All
Summative assessment	**Midterm Exam**	2hr	10% (10)	8	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Computers.
Week 2	Computer Organization.
Week 3	Programming logic and flowcharts.

Week 4	Introduction to C++, Structure of 'C++' program, Keywords and Identifiers, Data types.
Week 5	Assignment statements, Variables, Precedence of Operators, Evaluation of Expressions.
Week 6	Decision Making using if statement.
Week 7	Types of if …else block, nested if.
Week 8	Mid-term Exam + Switch case Block.
Week 9	Concept of Loop.
Week 10	While loop, Do while loop.
Week 11	For loop, break and continue statement.
Week 12	Nested loop.
Week 13	Introduction of Array.
Week 14	One - D Array.
Week 15	Two - D Array.
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to Visual studio environment, First C++ program.
Week 2	Using input/output statements.
Week 3	Using assignment statements.
Week 4	Convert Flowcharts and simple algorithms to programs and vice versa.
Week 5	Evaluation of Expressions.
Week 6	Precedence of Operators.
Week 7	Using if statement.
Week 8	If else statement.
Week 9	Nested if
Week 10	Switch case statement.
Week 11	Loop design using conditional statement.
Week 12	Loop using while, do.. while, for statements
Week 13	Nested loop.
Week 14	1D array.
Week 15	2D array.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	C++ PROGRAMMING From Problem Analysis to Program Design, 6th ed. By Dr. Malik.	Yes
Recommended Texts	Problem solving with C++ / Walter Savitch; contributor, Kenrick Mock. -- Ninth edition.	No
Websites	https://www.programiz.com/cpp-programming	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.